

JICA's Cooperation for Energy Sector and Regional Connectivity in South Asia

South Asia Department
Japan International Cooperation Agency
(JICA)

Innovative Cooperation



LED light in rural village
(Bhutan)

PV system
(Pakistan)



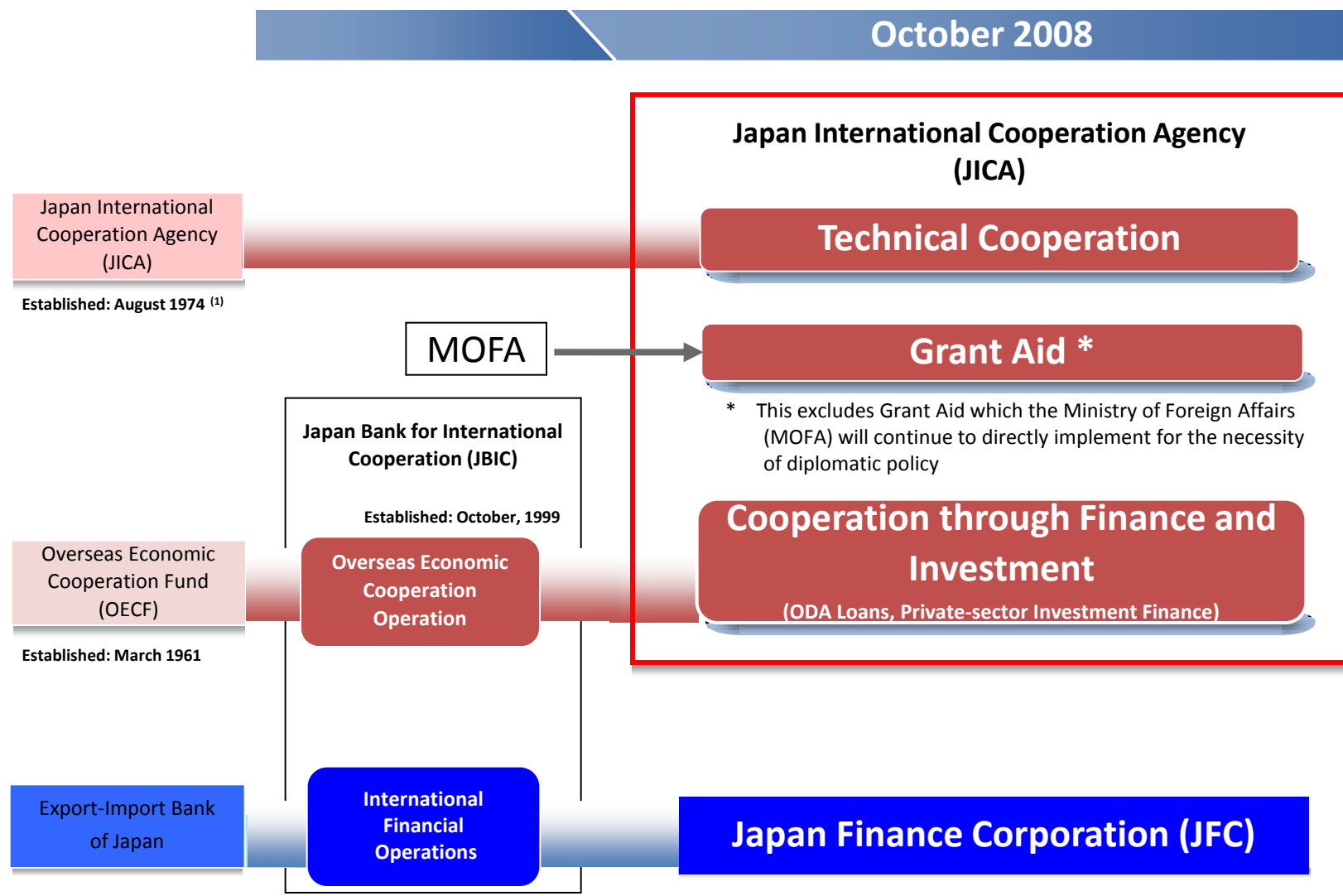
Copy Right 2012 Japan International Cooperation System (JICS)

1. Overview

I. Overview of JICA – Basic Information (as of March, 2014)

Name:	Japan International Cooperation Agency (JICA)		
Date of establishment:	October 1, 2008		
Legal foundations for operations:	Act of the Incorporated Administrative Agency - Japan International Cooperation Agency (subsequently, JICA Act)		
Objectives:	“JICA aims to contribute to the promotion of international cooperation as well as the sound development of Japanese and global economy by supporting the socioeconomic development, recovery or economic stability of developing regions.” (Article 3, JICA Act)		
President	Akihiko Tanaka		
Full-time employees	[1,883]		
Domestic Offices (14)			
		Overseas Offices (92)	

I. Overview of JICA – Our History



(1) JICA reorganized into an Incorporated Administrative Agency in October 2003.

I. Overview of JICA – Vision, Missions and Strategies

JICA will provide support for *“Inclusive and Dynamic Development”*

Mission 1 Addressing the global agenda

Mission 2 Reducing poverty through equitable growth

Mission 3 Improving governance

Mission 4 Achieving human security

Strategy 1 Integrated assistance

Strategy 2 Seamless assistance

Strategy 3 Promoting development partnerships

Strategy 4 Enhancing research and knowledge-sharing

Example Mission 4 is important approach to achieve Millennium Development Goals (MDGs)

- JICA believes the concept of human security to be essential in realizing the MDGs
- 189 world leaders adopted the UN Millennium Declaration, committing their nations to achieving the Millennium Development Goals (MDGs).
- These MDGs are specific, measurable targets which aims to reduce poverty by half by 2015.

The Eight MDGs

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

I. Overview of JICA – Three Main Arms of Cooperation

Cooperation through Finance and Investment

- **ODA Loans** are provided by the GOJ through JICA at **concessional conditions**, namely low interest rates and a long maturity period, to developing countries to finance investment for development.



Delhi Mass Rapid Transport System Project (India)



Maternal and Child Health Improvement (Bangladesh)

Technical Cooperation

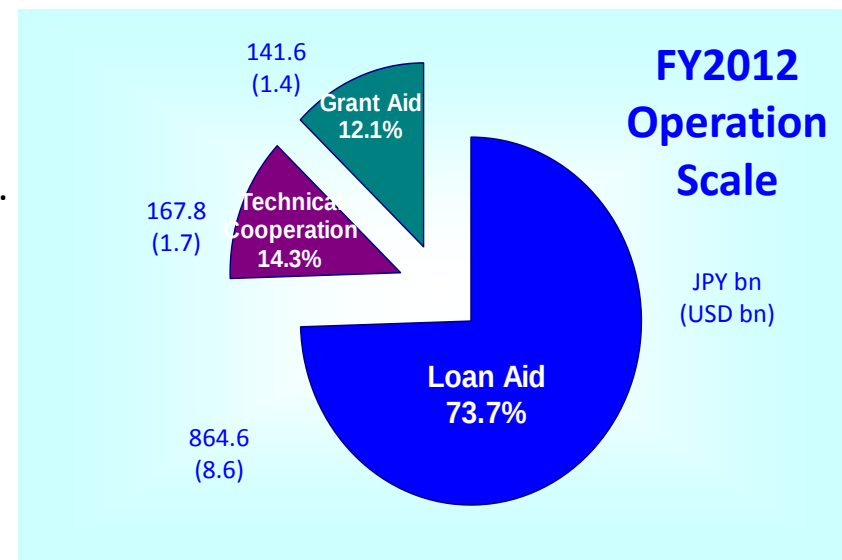
- **Japan's technical cooperation aims to nurture the human resources** who will lead economic and social development in developing countries by transferring Japan's technologies and expertise to them.



Sindhuli Road Construction Project (Nepal)

Grant Aid *

- Japan is providing **assistance in the form of grants with no repayment obligations** to provide the goods and services necessary for projects for economic and social development in developing countries.



Foreign exchange rate:
USD/JPY = 100

* Note : JICA carries out a substantial part of the budget for Grant Aid operations, while the rest is left for MOFA.

I. Overview of South Asia – Four Key Aid Strategies

JICA has established the following four priority areas for its cooperation programs in South Asia:

Sustainable Growth and Vitalization of the Private-Sector Economy

- Providing aid toward emerging South Asian countries with notable economic growth
- Achieving sustainable growth through assistance in development of infrastructure that form the foundations of economic growth
- Enhancing cooperation aimed at collaboration with the private sector

Peace-Building and Reconstruction

- Programs in Afghanistan and Pakistan as well as in Sri Lanka, which has been shifting to the development stage from the early reconstruction stage
- Being active in Nepal, which is in the process of establishing a government under a new constitution

Inclusive Development and Poverty Reduction

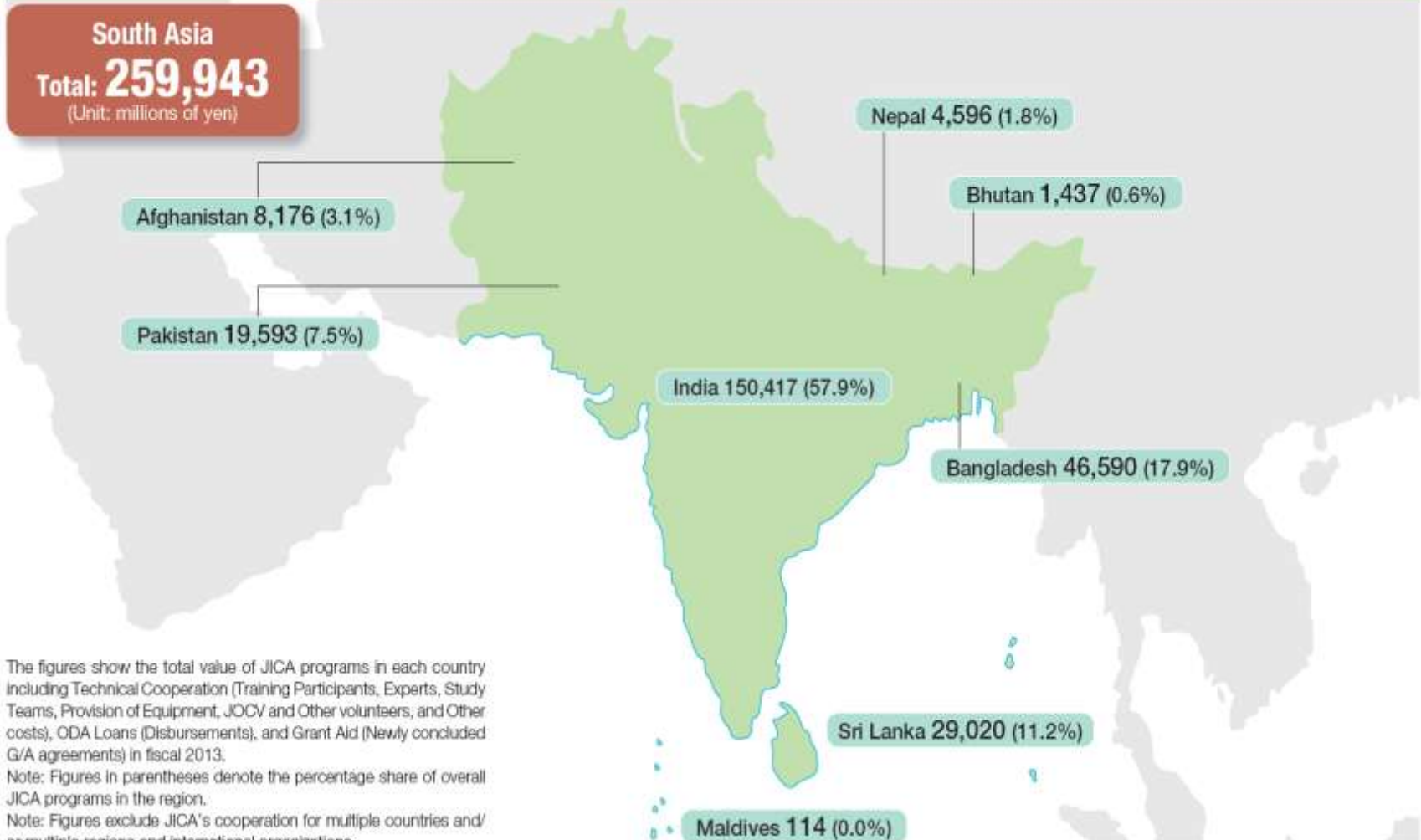
- Approximately 500 million impoverished in the region / With gender disparity remaining a serious problem
- Aiming to continually reduce the number of impoverished people in the region
- Being engaged in gender-related assistance, such as improving women's status and social empowerment.

Countermeasures on Environmental Concerns and Climate Change

- South Asia are highly vulnerable to cyclones, floods and other disasters caused by climate change and natural disasters.
- South Asia is a globally important region for the preservation of biodiversity.
- Providing cooperation with countermeasures on environmental concerns and climate change.

I. Overview of South Asia – Total Value of JICA Program

JICA Programs in South Asia (Fiscal 2013)



2. JICA's Cooperation for Energy Sector

Features of Japan's ODA in Energy Sector in South Asia

- Generation using energy source with comparative advantage:
 - Coal for India, Bangladesh, and Pakistan
 - Gas for India and Bangladesh
 - Storage-type hydropower in Nepal
- Transmission and distribution to meet energy demand and reduce loss (all countries)
- Energy efficiency (all countries)
- Renewable energy (all countries)



List of JICA-financed Projects in India

Total Number of Projects: 72 (Generation 54, Transmission & Distribution 18)

Total Amount of Lending: 1,064.4 billion Japanese yen

Uttarakhand

- Dhauliganga Hydroelectric Power Plant Construction Project (1996~2004)

Haryana

- Haryana Transmission System Project (2007)
- Western Yamuna Canal Hydroelectric Project (1981)

Uttar Pradesh

- Anpara B Thermal Power Station Construction Project (I – V)
- Anpara Power Transmission System Project (I•II•III)

Gujarat

- Gandhar Gas Based Combined Cycle Power Project (I•II•III)

Madhya Pradesh

- Madhya Pradesh Transmission System Modernisation Project (2010)

Maharashtra

- Maharashtra Transmission System Project (2007)

Karnataka

- Bangalore Distribution Upgradation Project (2006)
- Raichur Thermal Power Station Expansion Project(1988)

Tamil Nadu

- Tamil Nadu State Micro Hydro Power Stations Construction Project(1983)
- Basin Bridge Gas Turbine Project (1990)
- Tamil Nadu Transmission System Improvement Project (2012)

More Than Two States

- Rural Electrification Project (2005)
- Northern India Transmission System Project (1997)
- New and Renewable Energy Development Project(2010)

West Bengal

- Bakreswar Thermal Power Station Project (2002)
- Purulia Pumped Storage Project (1994, 2005)
- West Bengal Transmission System Project (1997, 2002)

Assam

- Assam Gas Turbine Power Station and Transmission Line Construction Project (I•II•III)

Meghalaya

- Umiam Hydro Power Station Renovation Project (1997)
- Umiam Stage II Hydro Power Station R&M Project (2004)

Jharkhand

- North Karanpura Super Thermal Power Project (2004)

Andhra Pradesh

- Transmission System Modernization Project in Hyderabad (2006)
- Srisaillam Power Transmission System Project
- Simhadri and Vizag Transmission System Project
- Kothagudem'a' Thermal Power Station Rehabilitation Project (1995)
- Srisaillam Left Bank Power Station Project
- AP Rural High Voltage Distribution System Project (2010)

Legend

- Generation
- Transmission and Distribution

Overview of JICA's Cooperation in Bhutan

Infrastructure
Development

Social Service
Improvement

Agriculture and Rural
Development

Governance
Improvement

Improvement of Efficiency for
the Rural Power Supply (Phase 2)
(Technical Cooperation)
(2001.3 – 2014.8)



Rural Electrification Project
Phase I and II (Loan) (2007-)

BIG-B as Engine of Growth

(Bay of Bengal Industrial Growth Belt)

2014 – 2017/18 (4/5 Years)
600 Billion JPY ODA Loans

Power and Energy

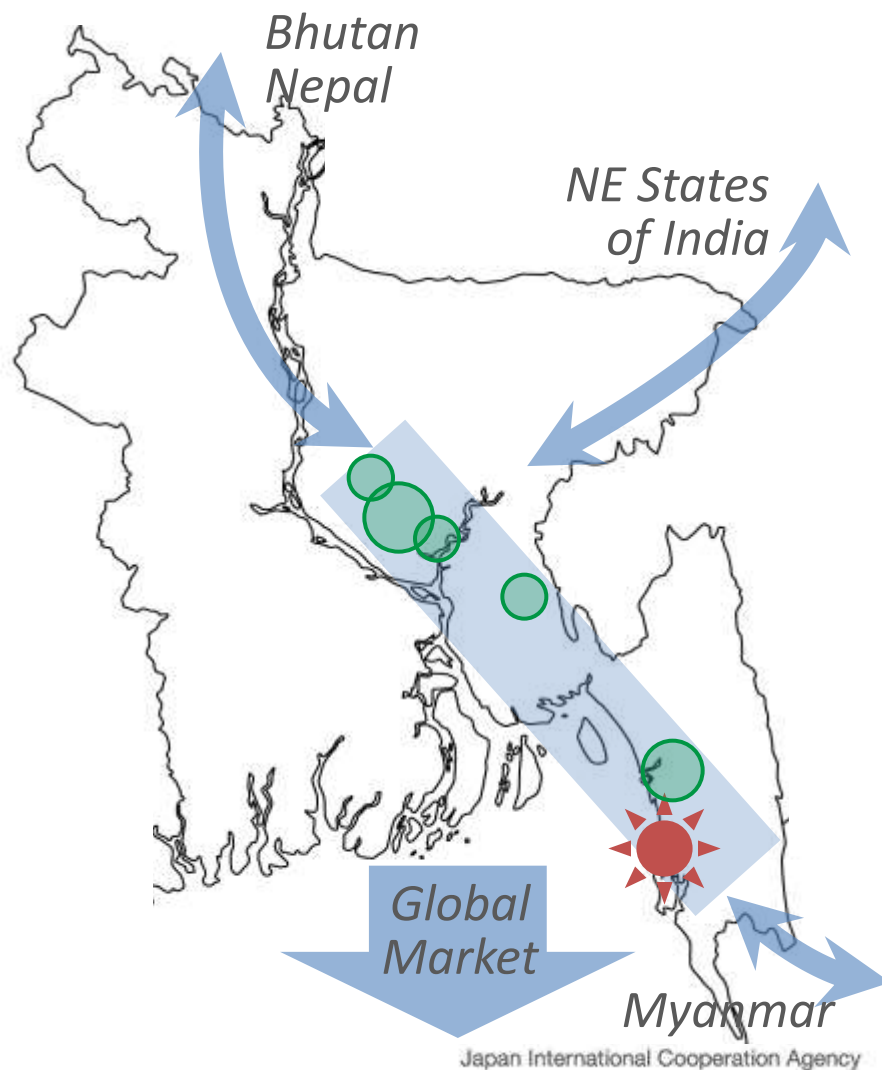
Reliable Power for Industries

Transport

Regional Logistics Hub

Invest Promotion

Enabling Environment



Matarbari Ultra Super Critical Coal-Fired Power Project in Bangladesh

Project Cost : 4,500 mil USD (JPN: 3,800 mil / GoB: 700 mil)

Scope: ①1200MW PS, ②Deep Sea Port, ③400kV TL, ④Access Road

Period: Port Completion in 2021, Power Station Completion in 2023

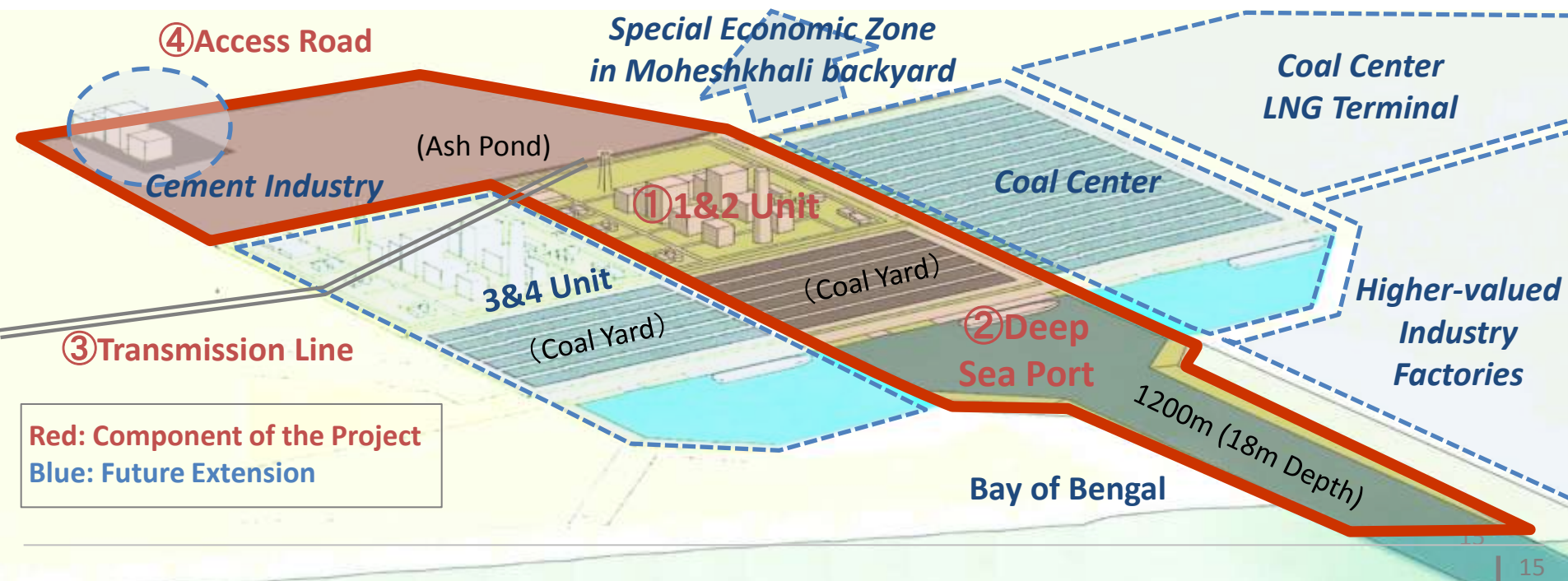


Salient Features

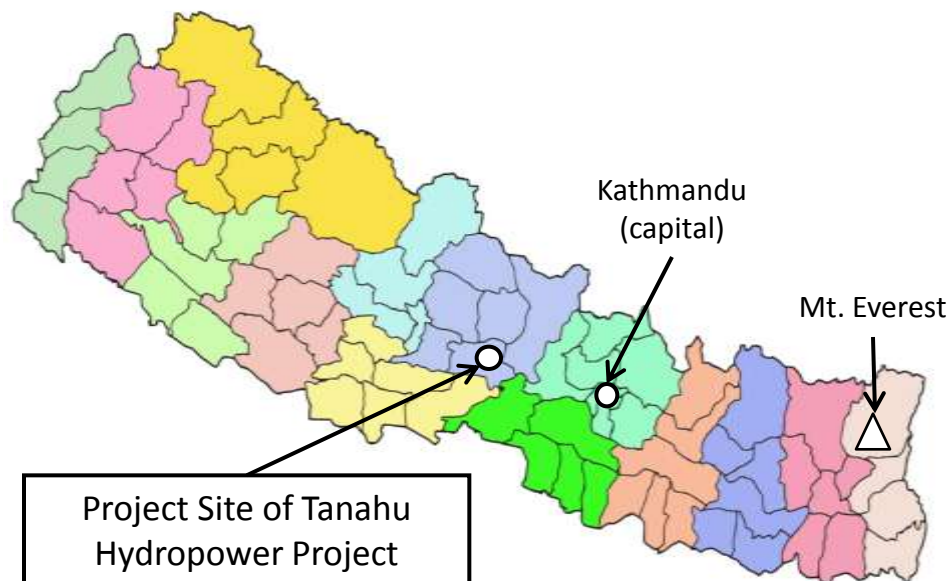
- 1200MW (18%) of current Power Supply
- Most-Advanced Ultra Super Critical Technology
- Deep Sea Port for Primary Energy Source Hub

Future Extension

- 3&4 Unit Power Plant (1,200MW+)
- Coal/LNG Terminal
- Economic Zone Development



Overviews of JICA's Cooperation in Nepal

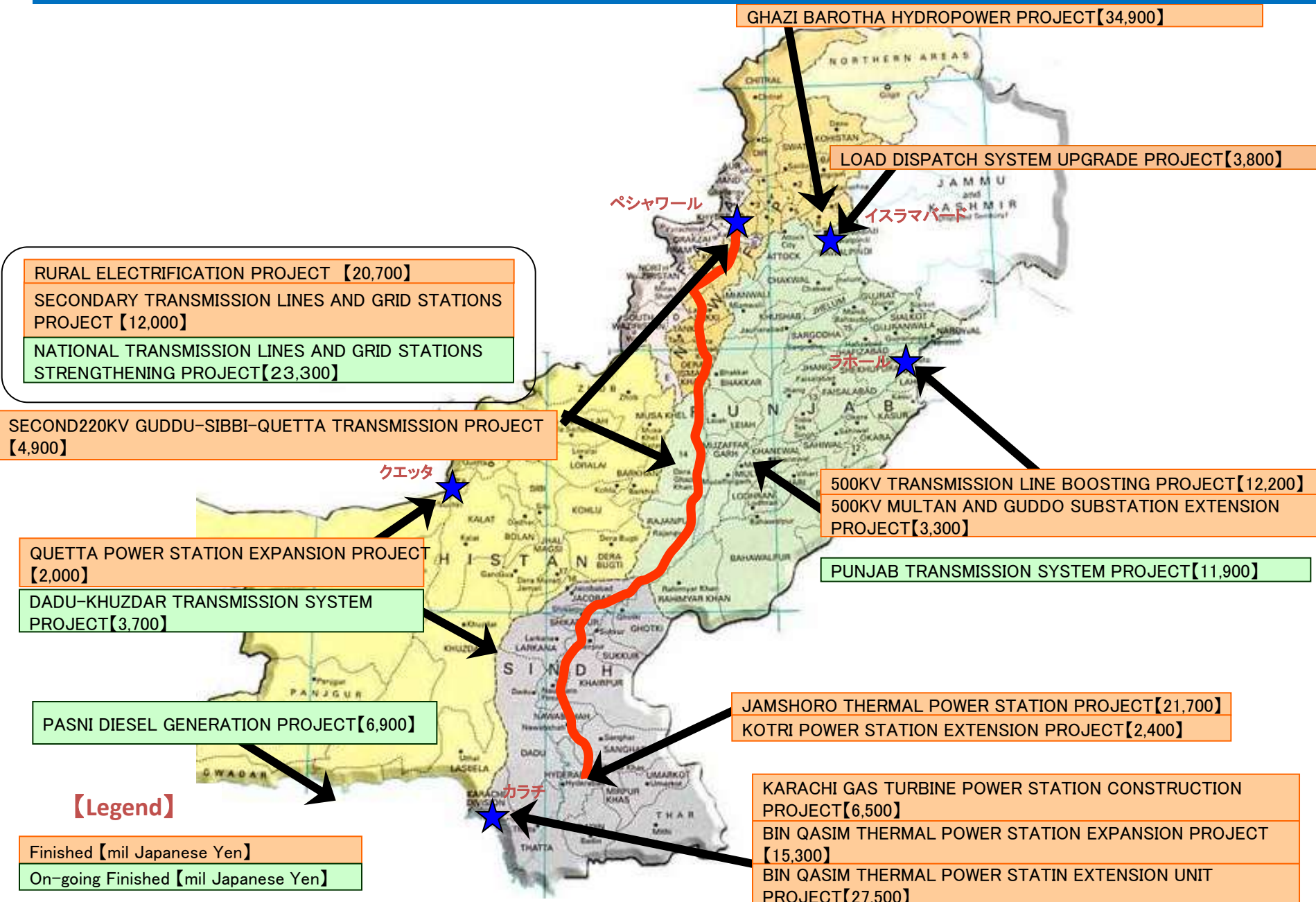


Modality	Project Title (Approval Year)
Loan	Kulekhani-I Hydroelectric Project (FY 1975, 1978)
	Kulekhani-II Hydroelectric Project (FY1982, 1983)
	Kali Gandaki A Hydroelectric Project (FY 1996)
	Tanahu Hydropower Project (FY2012 – ongoing)
Grant	Extension and Rehabilitation of Power Transmission and Distribution System in Kathmandu Valley Phase 3 (FY2003)
	Construction of New Kawasoti Substation (FY2007)
Technical Cooperation	Nationwide Master Plan Study on the Storage Type Hydroelectric Power Development (FY2007)
	Hydropower Planning Advisor (FY2001 – ongoing)

Photo (left): Project Site for Dam
(Upper Seti River)

Photo (right): Seti River

Overview of JICA's Cooperation in Pakistan



Pakistan: Energy Sector Reform Program

- Co-financing with **World Bank** and **Asian Development Bank**
- All 3 donors signed their Loan Agreement for the 1st year operation before June 2014 (JICA: 5 billion yen)

5-year Policy Matrix

Policy Area A:
Managing Tariff and
Subsidy

Policy Area B:
Improving Sector
Performance and
Opening the Market to
Private Participation

Policy Area C:
Accountability and
Transparency

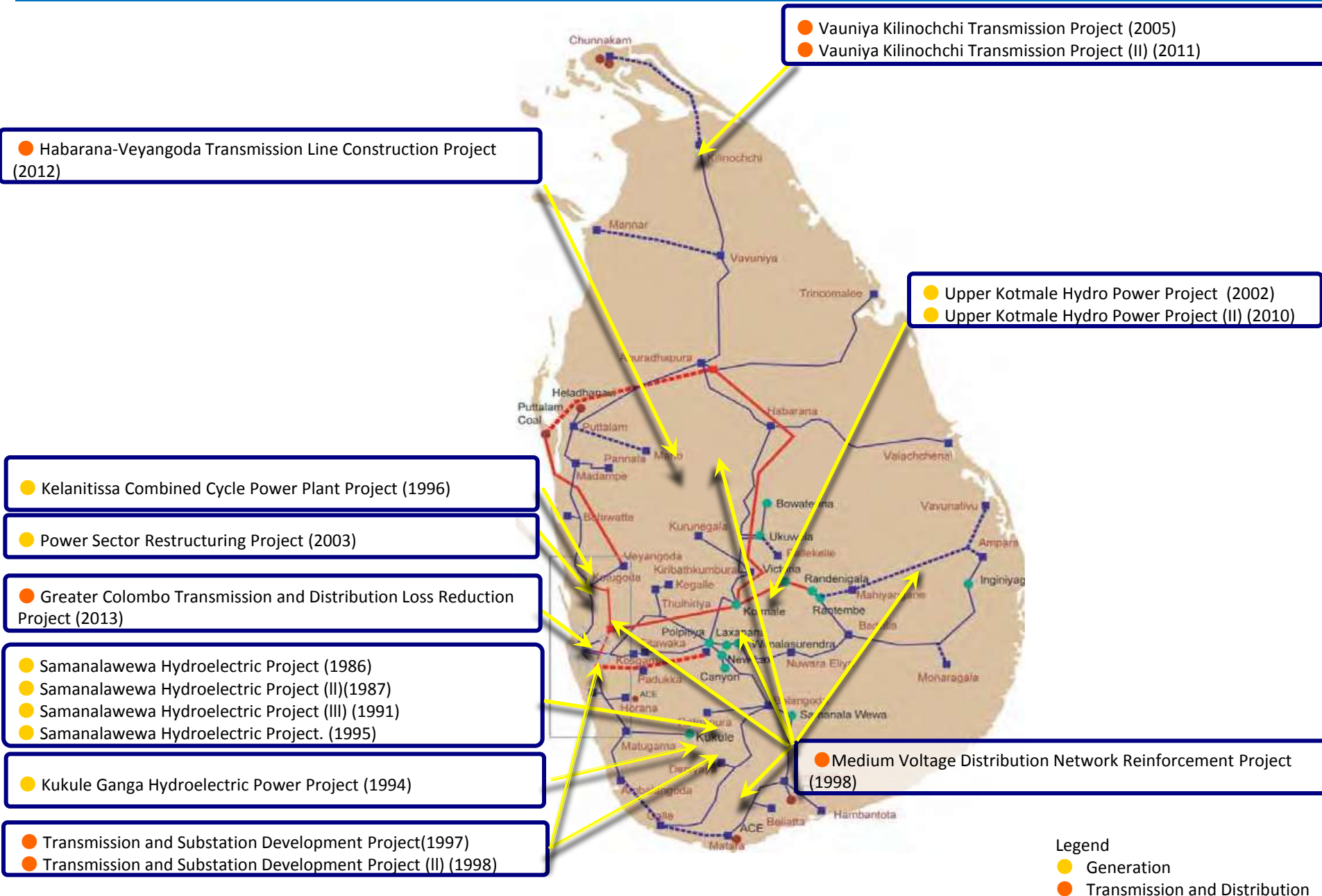
→ A total of 10 Objectives set under the 3 Policy Areas

- JICA is the **main supporting donor** for **2 of the objectives** under Policy Area B

Energy
Conservation

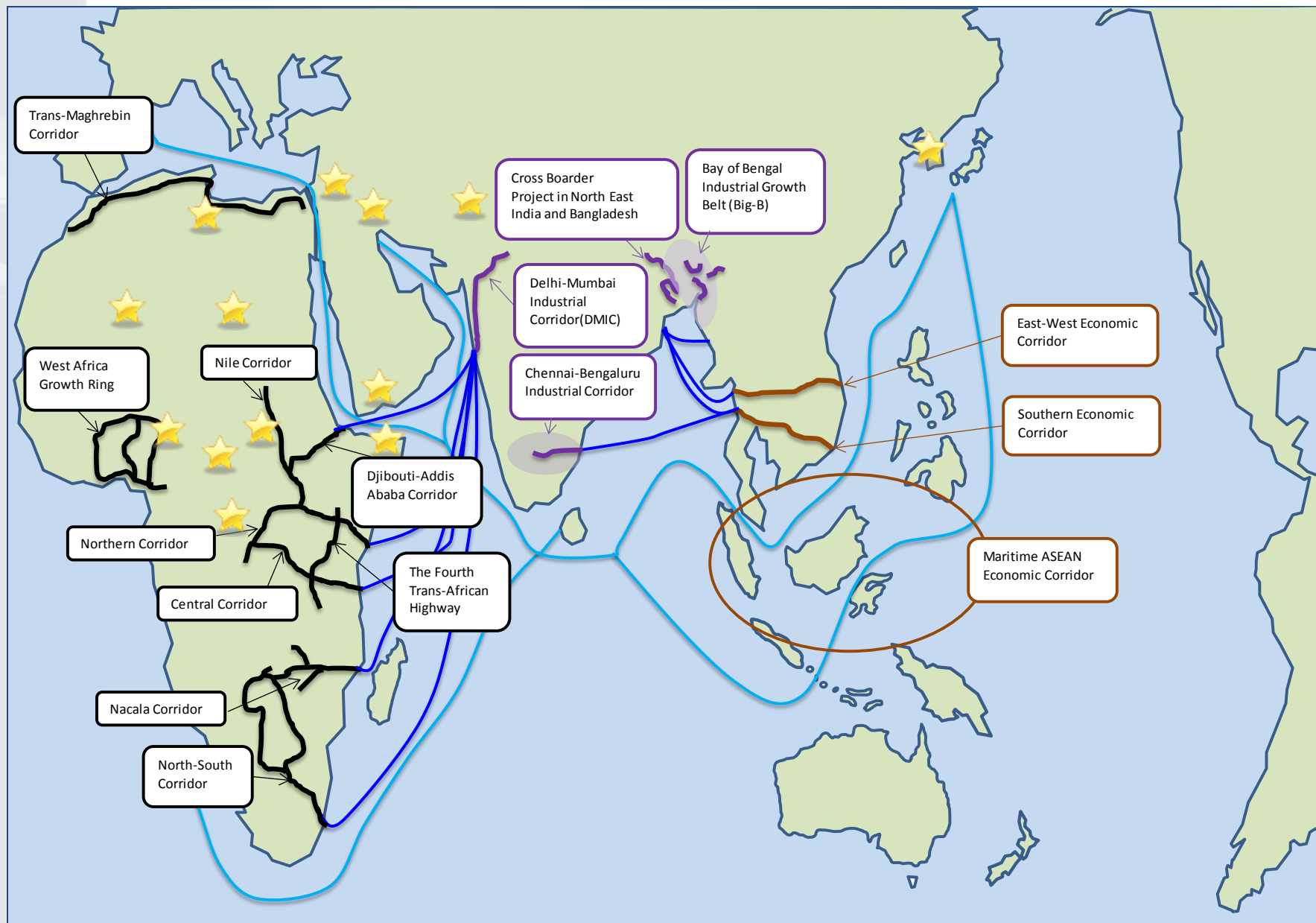
Least Cost
Planning

Overview of JICA's Cooperation in Sri Lanka



3. JICA's Cooperation in Regional Connectivity

JICA's activities for prosperity of the Indo-Pacific



1. Southeast Asia

(1) East-West Economic Corridor

- 2nd Mekong International Bridge (Loan)
- Hai Van Tunnel (Loan)
- Da Nang Port (Loan)

(2) Southern Economic Corridor

- Cambodia National Road No. 5 (Loan)
- Neak Loeung Bridge (Grant)
- Cai Mep-Thi Vai Port (Loan)

(3) Maritime ASEAN Economic Corridor

- ASEAN RoRo Shipping Network
- Maritime Safety (Loan, Grant, Technical Cooperation)

(4) Institutional connectivity for Economic Corridors

- Projects for E-Customs and National Single Window for Customs Modernization in Vietnam and Myanmar (Grant)

2. South Asia

(1) Bay of Bengal Industrial Growth Belt (Big-B)

- Dhaka-Chittagong Railway Development (Loan)
- Matarbari Ultra Super Critical Coal-Fired Power (Loan)

(2) Cross Boarder Projects in North East India and Bangladesh

- North East Connectivity Improvement (F/S)

(3) Delhi-Mumbai Industrial Corridor

- Dedicated Freight Corridor (Loan)

(4) Chennai-Bengaluru Industrial Corridor

- Chennai Metro (Loan)
- Bangalore Metro Rail (Loan)
- Tamil Nadu Investment Promotion Program (Loan)

3. Africa

(1) Northern Corridor

- Mombasa Port Development in Kenya (Loan)
- Master Plan on Logistics in Northern Economic Corridor (Technical Cooperation)

(2) Nacala Corridor

- Nacala Port Development (Loan and Grant)

(3) Central Corridor

- Comprehensive Transport and Trade System Development Master Plan in the Tanzania (Technical Cooperation)

(4) West Africa Growth Ring

- The Corridor Development for West Africa Growth Ring Master Plan (Technical Cooperation)

Tokyo Declaration for Japan-India Special Strategic and Global Partnership

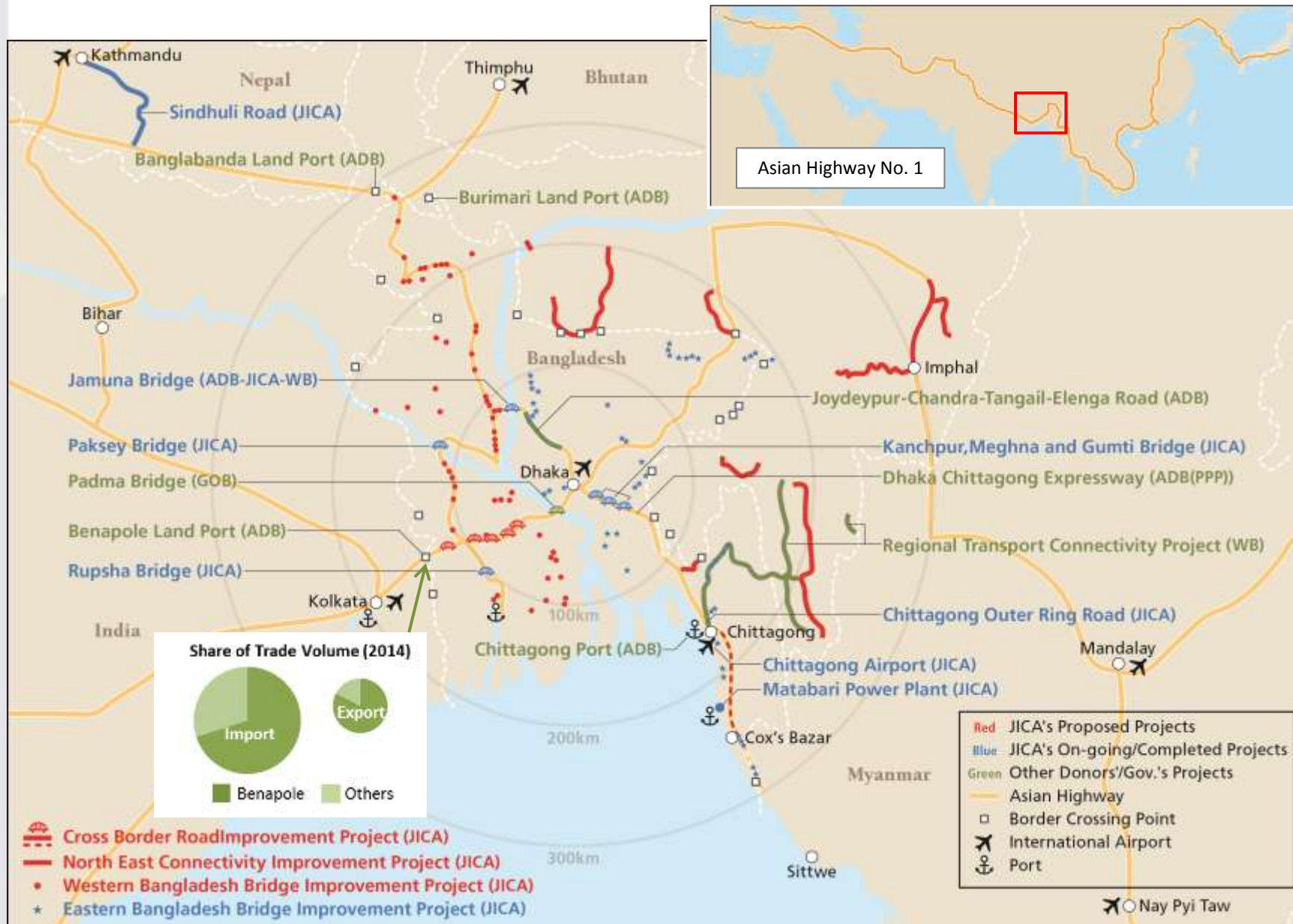
24. The two Prime Ministers placed special emphasis on Japan's cooperation for enhanced connectivity and development in Northeast India and linking the region to other economic corridors in India and to Southeast Asia, which would catalyze economic development and increase prosperity in the region.

Fact sheet : Regional Connectivity and Cooperation

34. Both sides welcomed the study by JICA on regional connectivity between North-East India and the neighboring countries, and instructed respective related authorities to proceed to realizing Japan's ODA in transport infrastructure projects in the region.---

35. Both sides decided to strengthen cooperation in the field of connectivity and socio-economic development in Northeast India. The Japanese side announced a survey by JICA to identify possible cooperation including road connectivity projects in Northeast states of India. The Indian side appreciated assistance by Japan to Northeast India, including a number of projects in the field of forest resource management as well as those currently under feasibility studies by JICA such as a potential yen loan project for water supply improvement in Imphal, Manipur

South Asia: Cross Border Road Network Development



JICA's Cooperation to Regional Power Supply

1. Construction of Nam Leuk Hydroelectric Power Plant (60MW) in Laos, with transmission system to Thailand



2. Construction of Yguazu Hydropower Station (200MW) in Paraguay, with transmission system integrated into regional grid in South America



Possible Cooperation area in South Asia

- Generation using energy source with comparative advantage:
 - Coal for India, Bangladesh, and Pakistan
 - Gas for Bangladesh
 - Storage-type hydropower in Nepal
- Promotion of Regional Power Supply in South Asia
- Transmission and distribution to meet energy demand and reduce loss (all countries)
- Energy efficiency (all countries)
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Example: Bangladesh

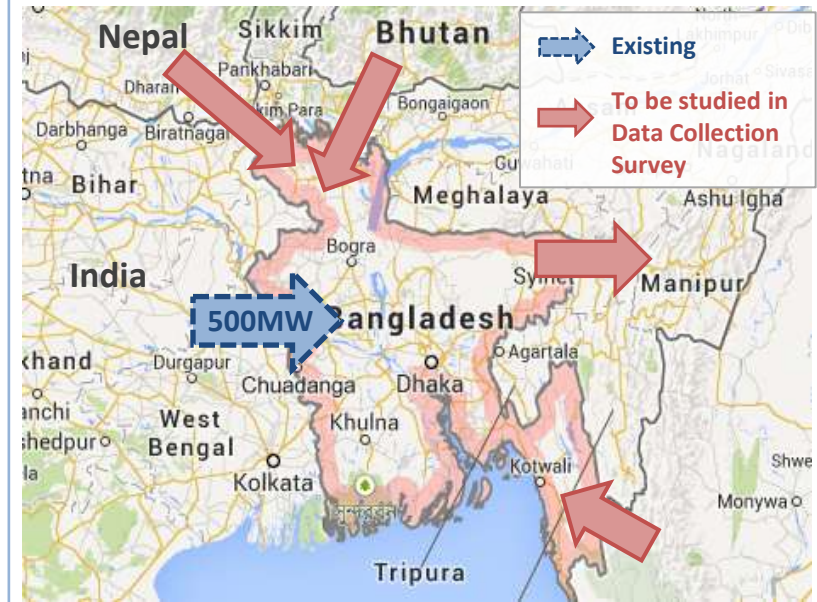
Benefits

- Utilize land-locked countries' natural resources for electricity-starving Bangladesh (big market)
- Stimulate “cross-border solution” among cross-sectors (such as transit, water, boundary etc.)

Data Collection Survey on Electricity

Interconnectivity

- Analyze electricity connectivity among neighboring countries of Bangladesh
- Identify potential hydro power generation projects in neighboring countries for import



Tentative Schedule

Schedule	Input	Output
Nov., 2014 –July, 2015 (on going)	Data Collection Survey	• Electricity Interconnectivity Strategy (with Project Lists) • Conceptual Design for Potential Project(s) • Pre Economic Analysis / Strategic Environment Assessment
(To be Decided) Future Project	F/S Formulation	• Hydro Power Plant in neighboring country(ies) • Cross-border transmission line to Bangladesh

Thank you for your attention!